VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9 VAC 25-260. The discharge results from the operation of a sewage treatment plant serving an elementary school. This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
   Stone-Robinson Elementary School STP
   2751 Hydraulic Road, Charlottesville, VA 22901
   Location: 958 North Milton Road, Charlottesville

2. Permit No. VA0076244; Expiration Date: November 30, 2012

3. Owner: Albemarle County Public Schools
   Permit Contact/Title: Lindsay Snoddy
   Telephone No: 434-975-9340
   Facility Contact/Title: Lindsay Snoddy
   Telephone No: 434-975-9340

4. Description of Treatment Works: The treatment facility receives sewage wastewater generated by the Stone-Robinson Elementary School. The treatment units are shown in the schematic included in the permit reissuance application.

Total Number of Outfalls:	1
Monthly Average Flow (2011-12 DMR Data):	0.0021 MGD
Design Capacity:	0.007 MGD
Permitted Flow Tiers:	NA

5. Application Complete Date: March 28, 2012

   Permit Drafted By: Keith Showman Date: May 24, 2012
   Reviewed By: Dawn Jeffries Date: May 24, 2012

   Public Comment Period: June 5, 2012 to July 5, 2012

6. Receiving Stream Name: Rivanna River
   River Mile: 34.05
   Use Impairment: Yes
   Watershed Name: VAV-H29R Middle Rivanna River/Buck Island Creek
   Basin/Subbasin: James (Middle)
   Section/Class: 10/III
   Special Standards: None
   Tidal Waters: No

7. Operator License Requirements per 9 VAC 25-31-200.C: NA

8. Reliability Class per 9 VAC 25-790: II (Assigned December 24, 1987)

9. Permit Characterization:
☐ Private ☐ Federal ☐ State ☑ POTW ☐ PVOTW
☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

10. Discharge Location Description and Receiving Waters Information: **Appendix A**

11. Antidegradation Review & Comments per 9 VAC 25-260-30: Tier 1

The State Water Control Board's Water Quality Standards (WQS) includes an antidegradation policy. All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. The Rivanna River in the vicinity of the discharge is determined to be a Tier 1 water. This determination is based on the fact that this facility discharges to a segment of the Rivanna River that is listed as impaired for not meeting the General Standard (Benthics) for aquatic life use. Antidegradation baselines are not calculated for Tier 1 waters.

12. Site Inspection: Performed by: Keith Showman Date: April 10, 2012

13. Effluent Screening and Effluent Limitations: **Appendix B**

14. Effluent toxicity testing requirements included per 9 VAC 25-31-220.D: ☐ Yes ☑ No

If "No," check one:
- ☑ Municipal: This facility does not have a design flow ≥ 1.0 MGD, has no Significant Industrial Users (SIUs) or Categorical Industrial Users (CIUs), and is not deemed to have the potential to cause or contribute to instream toxicity.
- ☐ Industrial: This facility's SIC Code(s) and activities contributing wastewater do not fall within the categories for which aquatic toxicity monitoring is required, the facility does not have an IWC = 33%, and the discharge is not deemed to have the potential to cause or contribute to instream toxicity.

15. Management of Sewage Sludge:
Sludge is pumped and hauled to the Moores Creek Regional STP for further treatment and disposal in accordance with the Sludge Management Plan, which is reapproved at this reissuance.

16. Permit Changes and Bases for Special Conditions: **Appendix C**

17. Material Storage per 9 VAC 25-31-280.B.2:
This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

18. Antibacksliding Review per 9 VAC 25-31-220.L:
This permit complies with the antibacksliding provisions of the VPDES Permit Regulation.

19. Impaired Use Status Evaluation per 9 VAC 25-31-220.D:
Rivanna River in the vicinity of Outfall 001 is listed as impaired for not meeting the General Standard (Benthics) for aquatic life use. The facility was included in the Rivanna River Sediment TMDL that was approved by the EPA on April 27, 2009. The facility was assigned a sediment waste load allocation (WLA) of 640 lbs/year. Based on the facility's design flow of 0.007 MGD, the WLA corresponds to a TSS concentration limit of 30 mg/L.

20. Regulation of Users per 9 VAC 25-31-280.B.9:
N/A – There are no industrial users contributing to the treatment works.

21. Storm Water Management per 9 VAC 25-31-120: Application Required? ☐ Yes ☑ No
If "No," check one:
☑ STPs: This facility does not have a design flow ≥ 1.0 MGD, nor is it required to have an approved POTW pretreatment program under 9 VAC 25-31-10 et seq.
☐ Others: This facility's SIC Code(s) and activities do not fall within the categories for which a Storm Water Application submittal is required.

22. Compliance Schedule per 9 VAC 25-31-250:
There is no compliance schedule required for this discharge.

23. Variances/Alternative Limits or Conditions per 9 VAC 25-31-280.B, 100.J, 100.P, and 100 M:
The permittee requested a waiver from sampling and reporting Temperature and Fecal Coliform as part of the permit application. The waiver request has been approved based on the justification provided by the permittee.

24. Financial Assurance Applicability per 9 VAC 25-650-30:
N/A – This facility does not serve private residences.

25. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7:
At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☑ Yes ☐ No

26. Nutrient Trading Regulation per 9 VAC 25-820:
General Permit Required: ☐ Yes ☑ No If Yes: Permit No.:

27. Threatened and Endangered (T&E) Species Screening per 9 VAC 25-260-20 B.8:
Stone-Robinson Elementary School STP was listed on the 2012 VPDES Permit review request list; therefore the coordination form included in the Memorandum of Understanding was sent to the Virginia Department of Game and Inland Fisheries (DGIF) on May 24, 2012. No comments were received from DGIF prior to the end of the public notice period and signing of the permit. If any comments are received they will forwarded to the permittee and considered at the next reissuance.

28. Public Notice Information per 9 VAC 25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Keith A. Showman at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7836, keith.showman@deq.virginia.gov.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

29. Historical Record:

EVENT	DATE
VPDES Permit No. VA0076244 issued for 0.007 MGD facility	1987
CTO issued for operation of 0.007 MGD facility	October 18, 1988

APPENDIX A

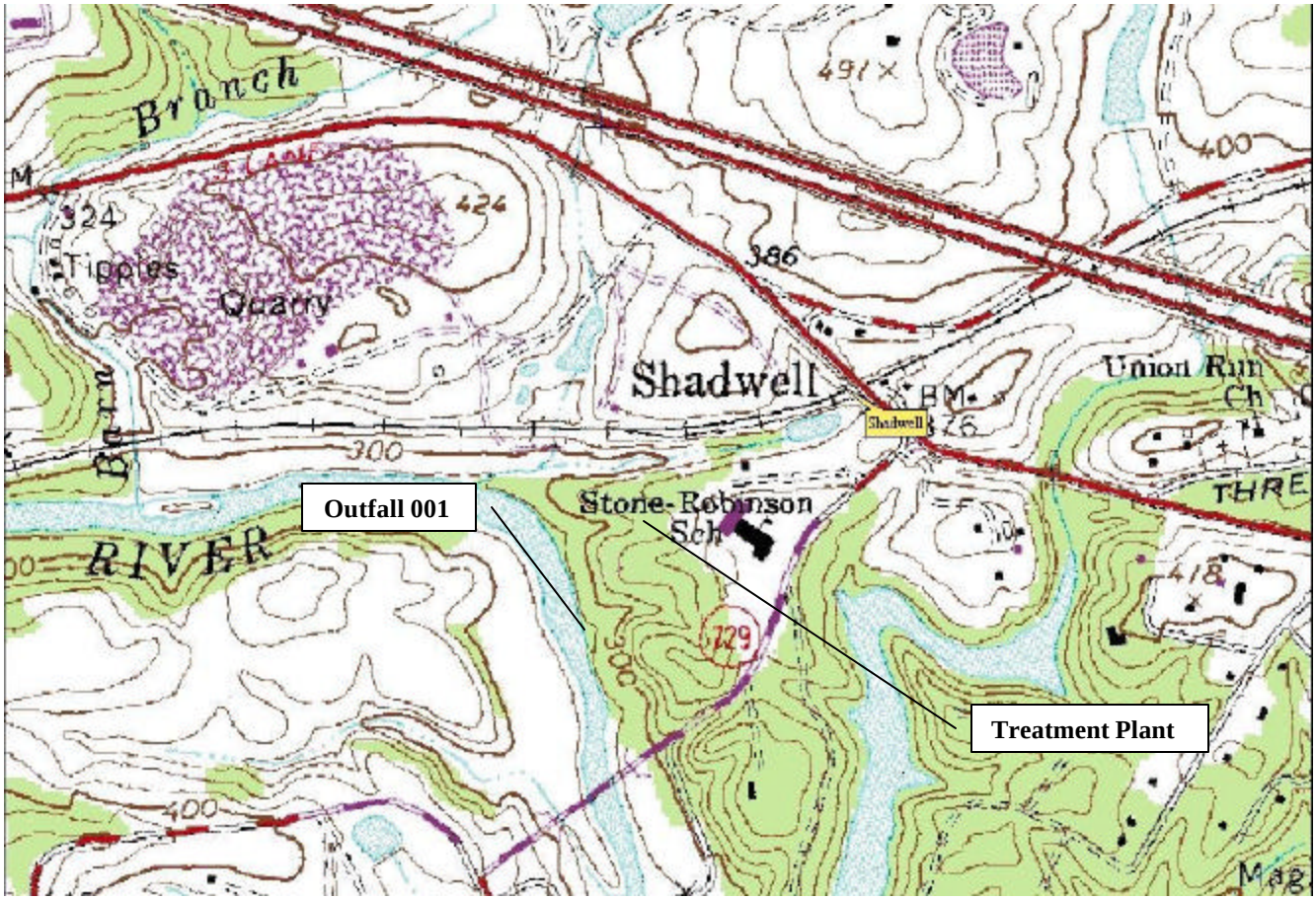
DISCHARGE LOCATION DESCRIPTION AND RECEIVING WATERS INFORMATION

Stone-Robinson Elementary STP discharges to the Rivanna River in Albemarle County. The location of Outfall 001 is shown on the topographical map below.

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the enclosed Water Quality Assessment TMDL Review and corresponding map.

A Flow Frequency Determination for the Rivanna River at the discharge point was provided by memo dated April 17, 2012, and is presented in this appendix.

A mixing zone analysis was conducted at the point of discharge using DEQ's mixing program (MIX.EXE), and the results are presented in this appendix.



WATER QUALITY ASSESSMENTS REVIEW
MIDDLE JAMES RIVER BASIN
3/29/2012

IMPAIRED SEGMENTS

SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER	
H28R-02-BAC	Moores Creek	6.37	0.00	6.37	Fecal Coliform, E-coli	
H28R-01-BEN	Rivanna River	41.93	30.77	11.16	Benthic	
H29R-03-BAC	Buck Island Creek	8.98	0.00	8.98	E-coli	
H28R-06-BAC	Rivanna River	41.93	36.65	5.28	E-coli	
H28R-02-BEN	Moores Creek	6.37	0.00	6.37	Benthic	
H29R-03-BEN	Buck Island Creek	2.58	0.00	2.58	Benthic	
H29R-04-BEN	Carroll Creek	9.12	0.00	9.12	Benthic	

PERMITS

PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0076244	**Stone Robinson Elementary School**	**Rivanna River**	**34.05**	**380036**	**782403**	**VAV-H29R**
VA0092622	Lake Monticello WTP	Rivanna River	25.82	375631	782007	VAV-H29R
VA0025518	Moores Creek STP	Moores Creek	0.19	380107	782725	VAV-H28R
VA0075981	Comfort Inn Monticello STP	Shadwell Creek	0.66	380113	782528	VAV-H29R
VA0085979	Keswick STP-001	Carroll Creek X Trib	0.03	380017	782132	VAV-H29R
VA0086584	Glenmore STP	Rivanna River	31.35	375844	782258	VAV-H29R
VA0085979	Keswick STP-004	Broadmoor Lake	3.22	380045	785112	VAV-H29R

MONITORING STATIONS

STREAM	NAME	RIVER MILE	RECORD	LAT	LONG	
Buck Island Creek	2-BID002.11	2.11	07/01/01	375715	-782415	
Meadow Creek	2-MWC000.60	0.6	07/01/91	380241	782746	
Moores Creek	2-MSC000.11	0.11	07/01/01	38110	782714	
Moores Creek	2-MSC000.60	0.6	07/01/91	380106	782739	
Rivanna River	2-RVN037.54	37.54	07/01/93	380115	782718	
Rivanna River	2-RVN039.58	39.58				
Rivanna River	2-RVN033.65	33.65	10/07/68	380018	782358	
Slate Quarry Creek	2-SQC001.85	1.85	07/01/01	375637	-782758	
Meadow Creek	2-MWC000.04	0.04	01/19/10	380245	782718	
Meadow Creek	2-MWC001.16	1.16	01/19/10	380251	782811	
Meadow Creek	2-MWC001.28	1.28	01/19/10	380256	782806	
Schenks Branch	2-SNK000.02	0.02	01/19/10	380255	782808	
Schenks Branch	2-SNK001.02	1.02	01/19/10	380229	782847	
Schenks Branch UT	2-XSN000.04	0.04	01/19/10	380223	782840	
Schenks Branch UT	2-XSN000.19	0.19	01/19/10	380215	782846	
Moores Creek	2BMSC002.46	2.46		380060	782920	
Moores Creek	2BMSC003.06	3.06		380049	782918	
Rivanna River	2BRVN039.91	39.91		380234	782716	
Rivanna River	2BRVN040.04	40.04		380245	782709	
Schenks Branch	2BSNK001.20	1.2		380229	782904	
Schenks Branch UT	2BXSN000.21	0.21		380215	782847	
Carroll Creek	2-CRR000.27	0.27				
Rivanna River	2BRVN032.46	32.46		375934	782329	
Rivanna River	2BRVN035.67	35.67		380032	-782456	
Schenks Branch	2-SNK000.88	0.88	3/30/05	380226	0782838	
Schenks Branch UT	2-XSN000.08	0.08	3/30/05	380221	0782841	
Schenks Branch UT	2-XSN000.18	0.18	3/30/05	380216	0782845	

PUBLIC WATER SUPPLY INTAKES

OWNER	STREAM	RIVER MILE				
LAKE MONTICELLO	RIVANNA RIVER	25.74				

WATER QUALITY MANAGEMENT PLANNING REGULATION

Is this discharge addressed in the WQMP regulation? **No**

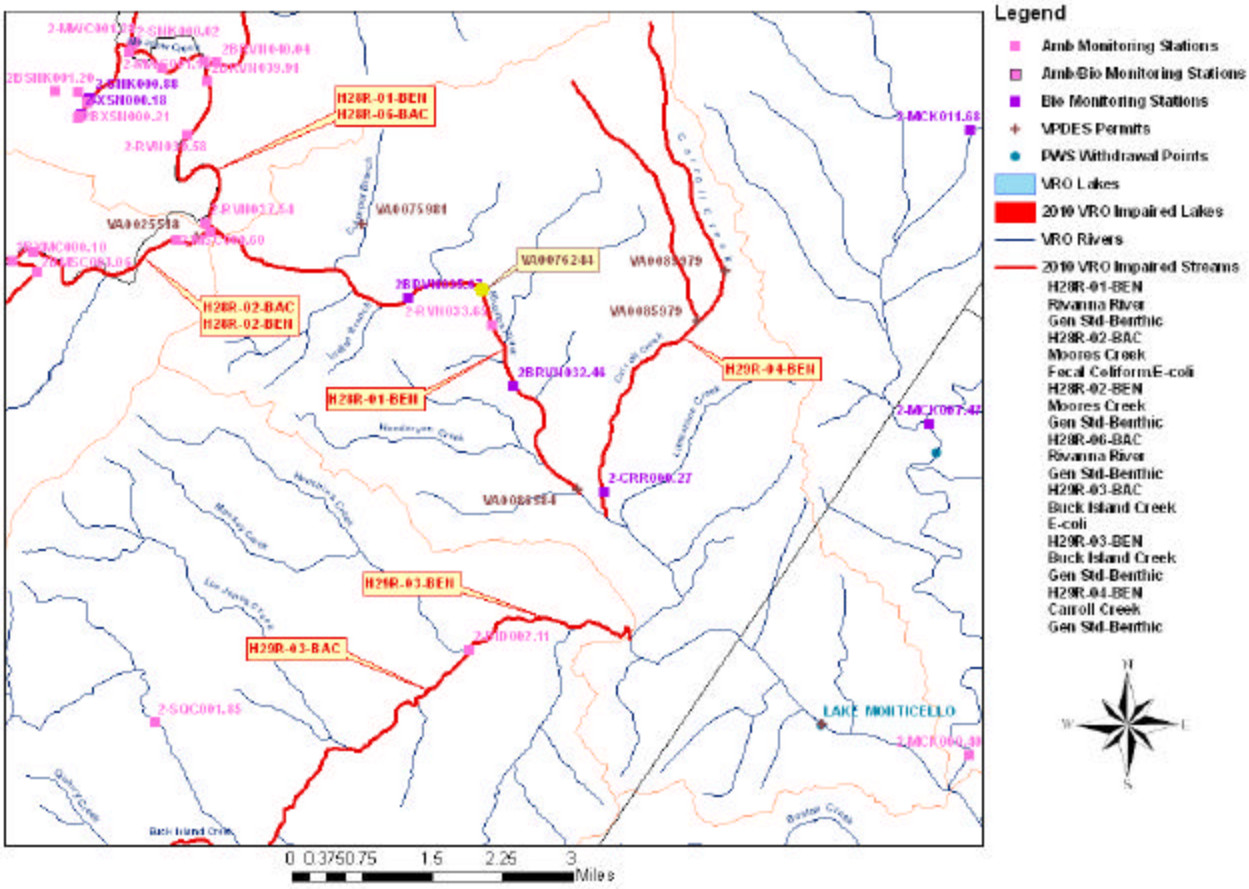
If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?

PARAMETER	ALLOCATION					

WATERSHED NAME

VAV-H29R Middle Rivanna River/Buck Island Creek

Stone-Robinson Elementary School- Water Quality Assessments Review
March 29, 2012



MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road – P.O. Box 3000 Harrisonburg, VA 22801

SUBJECT: Flow Frequency Determination
Stone-Robinson Elementary School STP – VPDES Permit No. VA0076244, Albemarle County

TO: Permit Processing File

FROM: Keith A. Showman

DATE: April 17, 2012

This memo supersedes the previous flow frequency determination dated May 14, 2007.

The Stone-Robinson Elementary School STP discharges to the Rivanna River near Shadwell, VA. Stream flow frequencies are required at this site by the permit writer for the purpose of calculating effluent limitations for the VPDES permit.

The USGS has operated a continuous record gage on the Rivanna River at Palmyra, VA (#02034000) since 1933. Flows at the gage have been regulated by reservoirs since 1967. The flow frequencies for the gage have been determined using the regulated period or record. The gage is located at the U.S. Route 15 bridge in Fluvanna County, VA. The flow frequencies at the discharge point were determined by using the values at the measurement site and adjusting them by proportional drainage areas. The data for the gage and the discharge point are presented below. This analysis assumes there are no significant discharges, withdrawals or springs upstream of the discharge point.

Rivanna River at Palmyra, VA (#02034000):
Drainage Area = 663 mi^2

1Q30	=	13 cfs	High Flow 1Q10	=	111 cfs
1Q10	=	24 cfs	High Flow 7Q10	=	133 cfs
7Q10	=	28 cfs	High Flow 30Q10	=	182 cfs
30Q10	=	42 cfs	Harmonic Mean	=	226 cfs
30Q5	=	62 cfs	Annual Average	=	728 cfs

Rivanna River at the discharge point:
Drainage Area = 510.9 mi^2

1Q30	=	6.47 MGD	High Flow 1Q10	=	55.3 MGD
1Q10	=	12.0 MGD	High Flow 7Q10	=	66.2 MGD
7Q10	=	13.9 MGD	High Flow 30Q10	=	90.6 MGD
30Q10	=	20.9 MGD	Harmonic Mean	=	112 MGD
30Q5	=	30.9 MGD			

The high flow months are December through May.

Reviewer: JRD
Date: 4/18/12

Mixing Zone Predictions

Effluent Flow = 0.007 MGD
Stream 7Q10 = 13.9 MGD
Stream 30Q10 = 20.9 MGD
Stream 1Q10 = 12 MGD
Stream slope = 0.001 ft/ft
Stream width = 65 ft
Bottom scale = 1
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .5375 ft
Length = 14727.41 ft
Velocity = .6162 ft/sec
Residence Time = .2766 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .6877 ft
Length = 11957.28 ft
Velocity = .724 ft/sec
Residence Time = .1911 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .4919 ft
Length = 15871.5 ft
Velocity = .5813 ft/sec
Residence Time = 7.5837 hours

Recommendation: A complete mix assumption is appropriate for this situation providing no more than 13.19% of the 1Q10 is used.

Virginia DEQ Mixing Zone Analysis Version 2.1

APPENDIX B

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed, and the most stringent limits were selected. The selected limits are summarized in the table below.

Outfall 001 **Final Limits** **Design Flow: 0.007 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow (MGD)	4	NL		NL		1/Day	Estimate
---	---	Monthly Average		Weekly Average		---	---
BOD_5	1,3,5	30 mg/L	0.79 kg/d	45 mg/L	1.2 kg/d	1/6 Months	Grab
TSS	1,6	30 mg/L	0.79 kg/d	45 mg/L	1.2 kg/d	1/6 Months	Grab
Effluent Chlorine (TRC)* (mg/L)	2	2.0		2.4		1/Day	Grab
E. coli ** (geometric mean) (N/100 mL)	3	126		NA		4/Month 10 am to 4 pm	Grab
---	---	Minimum		Maximum		---	---
pH (S.U.)	1,3	6.0		9.0		1/Day	Grab
Contact Chlorine (TRC)* (mg/L)	2,3	1.0		NA		1/Day	Grab

NL = No Limitation, monitoring required NA = Not Applicable
4/Month = 4 samples taken monthly with a least 1 sample taken each calendar week

* = Applicable only if chlorination is used for disinfection
** = Applicable if an alternative to chlorination is used for disinfection.

Bases for Effluent Limitations

1. Federal Effluent Requirements (Secondary Treatment Regulation - 40CFR133)
2. Best Professional Judgment (BPJ)
3. Water Quality Standards
4. VPDES Permit Regulation
5. Regional Stream Model (v 4.11) simulation
6. Rivanna River Sediment TMDL

LIMITING FACTORS – OVERVIEW:
The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (9 VAC 25-720)	
A. TMDL limits	**TSS**
B. Non-TMDL WLAs	**None**
C. CBP (TN & TP) WLAs	**None**
Federal Effluent Guidelines	**BOD_5, TSS, pH**
BPJ/Agency Guidance limits	**TRC (contact), TRC (effluent)**
Water Quality-based Limits - numeric	**BOD_5, DO, TKN, Ammonia-N, TRC (effluent), E. coli, pH**
Water Quality-based Limits - narrative	**None**
Toxics Management Plan (TMP)	**Not applicable**
Storm Water Limits	**Not applicable**

EVALUATION OF THE EFFLUENT – CONVENTIONAL POLLUTANTS
The discharge for this facility was previously modeled using the Regional Stream Model (v 4.11) and is included as a component of a larger, three part Rivanna River model that begins at the Moores Creek confluence with the Rivanna River and continues downstream to 1.14 miles downstream of the Rivanna River confluence with Raccoon Creek. Because the receiving stream characteristics at the Stone-Robinson Elementary School STP discharge point remain largely unchanged, the limits established in the existing Rivanna River model are considered to be protective of the DO WQS in the Rivanna River. The model-based BOD_5 limits have been carried forward from the previous permit. The modeling information is maintained in the DEQ-VRO receiving stream DO model files and is available for review at the DEQ-Valley Regional Office or electronically upon request.

The concentrations below were demonstrated to maintain the DO WQS in the Rivanna River.

$cBOD_5$	=	25 mg/L
TKN	=	20 mg/L
DO	=	0 mg/L

Because a $cBOD_5$ discharge concentration of 25 mg/L was demonstrated to be protective, a BOD_5 effluent concentration of 30 mg/L is also protective. The previous frequency for monitoring BOD_5 was 1/6 Months. An evaluation of the facility's records for the previous 5 years indicates that the effluent BOD_5 concentration is averaging less than 25% of the monthly average limit. Based on the record of compliance, the monitoring frequency for BOD_5 of 1/6 Months has been carried forward from the previous permit.

Based on the model, it was determined that no TKN limits were needed because a sewage treatment plant is not expected to discharge effluent with TKN concentrations greater than 20 mg/L.

No DO limit was determined to be necessary during the previous permit or at this reissuance.

The pH limits reflect secondary treatment limits and the current WQS in the receiving stream and have been carried forward from the previous permit.

TSS limits comply with the facility's sediment WLA included in the Rivanna River Sediment TMDL. The TMDL established a WLA for this discharge of 640 pounds/year. Based on the facility's design flow of 0.007 MGD, the WLA corresponds to a TSS monthly average concentration limit of 30 mg/L. The previous frequency for monitoring TSS was 1/6 Months. An evaluation of the facility's records for the previous 5 years indicates that the effluent TSS concentration is averaging less than 25% of the monthly average limit. Based on the record of compliance, the monitoring frequency for TSS of 1/6 Months has been carried forward from the previous permit.

EVALUATION OF THE EFFLUENT – DISINFECTION

Chlorine has been demonstrated to be effective for E. coli disinfection resulting in concentrations less than 126 cfu/100 mL; therefore, E. coli limits are specified in the permit only if the facility utilizes an alternative to chlorination for disinfection.

EVALUATION OF THE EFFLUENT – NUTRIENTS

Since this facility is not designed to discharge 40,000 gallons or more per day, nutrient limits do not apply.

EVALUATION OF THE EFFLUENT – TOXIC POLLUTANTS

Stream: Water quality data for the receiving stream were obtained from the Rivanna River Ambient Monitoring Stations No. 2-RVN033.65 (see Table 1 below). A Flow Frequency Determination for the receiving stream was generated April 17, 2012, and is included in Appendix A.

Stream Information	
90%-tile Annual Temp (°C) = 26.1	90%-tile pH (SU) = 8.1
Mean Hardness (mg/L) = 25.7	10%-tile pH (SU) = 6.7

Discharge: The pH values were obtained from the monthly Discharge Monitoring Reports (DMRs) submitted by the facility. Because no site specific effluent data were available for temperature and hardness, the effluent values have been carried forward from the previous permit per BPJ (see Table 2 below).

Effluent Information	
90%-tile Annual Temp (°C) = 25	90%-tile pH (SU) = 7.0
Mean Hardness (mg/L) = 67	10%-tile pH (SU) = 7.0

WQC and WLAs were calculated for the WQS parameters for which data are available. Those WQC and WLAs are presented in this appendix. Current agency guidance recommends the evaluation of toxic pollutant limits for TRC and Ammonia-N based on default effluent concentrations of 20 mg/L and 9 mg/L, respectively. The effluent data were analyzed per the protocol for evaluation of effluent toxic pollutants included in this appendix with the following results:

- Ammonia-N: No limits were determined to be necessary for Ammonia-N.
- TRC: Limits identical to those in the previous permit were determined to be necessary. WLAs were calculated but were not used to determine the limits at this reissuance because they were greater than 4 mg/L. Per Guidance Memo No. 00-2011, if an acute WLA greater than 4 mg/L is calculated, then 4 mg/L is used for both acute and chronic WLAs when determining effluent limits.

WQS-WLA Spreadsheet: Input

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name: Stone Robinson Elementary School STP
Receiving Stream: Rivanna River
Permit No.: VA0076244
Date: 5/23/2012
Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information				Effluent Information		
Mean Hardness (as CaCO3) =	25.7	mg/L	1Q10 (Annual) =	12.0	MGD	Annual	- 1Q10 Flow =	100	%	Mean Hardness (as CaCO3) =	67	mg/L
90% Temperature (Annual) =	26.1	deg C	7Q10 (Annual) =	13.9	MGD		- 7Q10 Flow =	100	%	90% Temp (Annual) =	25	deg C
90% Temperature (Wet season) =		deg C	30Q10 (Annual) =	20.9	MGD		- 30Q10 Flow =	13.19	%	90% Temp (Wet season) =		deg C
90% Maximum pH =	8.1	SU	1Q10 (Wet season) =		MGD	Wet Season	- 1Q10 Flow =		%	90% Maximum pH =	7.0	SU
10% Maximum pH =	6.7	SU	30Q10 (Wet season) =		MGD		- 30Q10 Flow =		%	10% Maximum pH =	7.0	SU
Tier Designation =	1		30Q5 =	30.9	MGD					Current Discharge Flow =	0.007	MGD
Public Water Supply (PWS) Y/N? =	N		Harmonic Mean =	112	MGD					Discharge Flow for Limit Analysis =	0.007	MGD
V(alley) or P(iedmont)? =	P											
Trout Present Y/N? =	N											
Early Life Stages Present Y/N? =	Y											

Footnotes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
2. All flow values are expressed as Million Gallons per Day (MGD).
3. Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
4. Hardness expressed as mg/l CaCO3. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO3.
5. "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
6. Carcinogen "Y" indicates carcinogenic parameter.
7. Ammonia WQSs selected from separate tables, based on pH and temperature.
8. Metals measured as Dissolved, unless specified otherwise.
9. WLA = Waste Load Allocation (based on standards).
10. WLA = Waste Load Allocation (based on standards).
11. WLAs are based on mass balances (less background, if data exist).
12. Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
13. Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
14. Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
15. Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

WQS-WLA Spreadsheet: Output

~~Facility Name:~~ Stone Robinson Elementary School STP
Permit No.: VA0076244
~~Receiving Stream:~~ Rivanna River
~~Date:~~ 5/23/2012

WATER QUALITY CRITERIA
0.007 MGD Discharge Flow - Mix per "Mixer"

Toxic Parameter and Form	Carcinogen?	Aquatic Protection Acute		Aquatic Protection Chronic		Human Health Public Water Supplies	Human Health Other Surface Waters
Ammonia-N (Annual)	N	7.0E+00	mg/L	1.0E+00	mg/L	None	None
Chlorine, Total Residual	N	1.9E-02	mg/L	1.1E-02	mg/L	None	None

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS
0.007 MGD Discharge - Mix per "Mixer"

Aquatic Protection Acute		Aquatic Protection Chronic		Human Health
1.2E+04	mg/L	4.0E+02	mg/L	N/A
3.3E+01	mg/L	2.2E+01	mg/L	N/A

STAT.EXE Results

Ammonia-N (Annual)

Chronic averaging period = 30
WLAa = 12000
WLAc = 400
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:
observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 9

Total Residual Chlorine

Chronic averaging period = 4
WLAa = 4
WLAc = 4
Q.L. = 0.1
# samples/mo. = 30
# samples/wk. = 7

Summary of Statistics:
observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average= 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 4
Average Weekly Limit = 2.44282882700811
Average Monthly Limit = 1.98248465547072

The data are: 20

PROTOCOL FOR EVALUATION OF EFFLUENT TOXIC POLLUTANTS

Toxic pollutants were evaluated in accordance with OWP Guidance Memo No. 00-2011. According to this guidance, STPs with a design flow = 0.040 MGD are treated as if there are no toxic pollutants in their discharge unless there is actual evidence to indicate otherwise. This applies to all toxic pollutants with the exception of Ammonia and Total Residual Chlorine, which are evaluated in every STP discharge. Also, these smaller STPs are not required to monitor for any toxic pollutants unless there is reason to believe that such pollutants may be present.

Acute and Chronic WLAs (WLA_a and WLA_c) were analyzed according to the protocol below using a statistical approach (STAT.exe) to determine the necessity and magnitude of limits. Human Health WLAs (WLA_{hh}) were analyzed according to the same protocol through a simple comparison with the effluent data. If the WLA_{hh} exceeded the effluent datum or data mean, no limits were required. If the effluent datum or data mean exceeded the WLA_{hh}, the WLA_{hh} was imposed as the limit.

Since there are no data available for any toxic pollutants immediately upstream of this discharge, all upstream background pollutant concentrations are assumed to be "0".

The steps used in evaluating available effluent data from STPs with design flows = 0.040 MGD are as follows:

A. If all data are reported as "below detection" or < the required Quantification Level (QL) (or, for metals, in a form other than "dissolved"), then the data are not suitable for analysis and no further monitoring is required.

B. If any data value is reported as detectable at or above the required QL, then the data are adequate to determine whether effluent limits are needed.

   B.1. If the evaluation indicates that no limits are needed, then no further monitoring is required.

   B.2. If the evaluation indicates that limits are needed, then the limits and associated requirements are specified in the draft permit.

Parameter	CASRN	Type	QL (µg/L)	Data (µg/L unless noted otherwise)	Source of Data	Data Eval
Ammonia-N (mg/L) (Annual)	766-41-7	X	0.2 mg/L	**Default = 9 mg/L**	**a**	**B.1**
TRC (mg/L)	7782-50-5	X	0.1 mg/L	**Default = 20 mg/L**	**a**	**B.2**

"Type" column indicates a category assigned to the referenced substance (see below):
X = Miscellaneous Compounds and Parameters

CASRN = Chemical Abstract Service Registry Number for each parameter is referenced in the current Water Quality Standards. A unique numeric identifier designating only one substance. The Chemical Abstract Service is a division of the American Chemical Society.

"Source of Data" codes:
a = default effluent concentration

"Data Evaluation" codes:
See section titled "EVALUATION OF EFFLUENT TOXIC POLLUTANTS" (preceding the parameter table) for an explanation of the code used.

APPENDIX C

PERMIT CHANGES AND BASES FOR SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page	Content and format as prescribed by the VPDES Permit Manual. *Updates the cover page of the previous permit with a change in the facility name to Stone-Robinson Elementary School STP.*
Part I.A.1.	**Effluent Limitations and Monitoring Requirements:** Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual. *Updates Part I.A.1. of the previous permit with the addition of a footnote for the 1/6 Months monitoring frequency.*
Part I.B.	**Additional Total Residual Chlorine (TRC) Effluent Limitations and Monitoring Requirements:** *Updates Part I.B. of the previous permit.* Required by Sewage Collection and Treatment (SCAT) Regulations and 9 VAC 25-260-170, Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.
Part I.C.	**Effluent Limitations and Monitoring Requirements – Additional Instructions :** *Updates Part I.C. of the previous permit.* QL for CBOD5 changed from 5 mg/L to 2 mg/L. Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.
Part I.D.1.	**95% Capacity Reopener:** *Identical to Part I.D.1. of the previous permit.* Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for certain permits.
Part I.D.2.	**Materials Handling/Storage:** *Identical to Part I.D.2. of the previous permit.* 9 VAC 25-31-280.B.2. requires that the types and quantities of "wastes, fluids, or pollutants which are … treated, stored, etc." be addressed for all permitted facilities.
Part I.D.3.	**O&M Manual Requirement:** *Updates Part I.D.3. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs.
Part I.D.4.	**CTC/CTO Requirement:** *Updates Part I.D.4. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs.
Part I.D.5.	**SMP Requirement:** *Identical to Part I.D.5. of the previous permit.* VPDES Permit Regulation 9 VAC 25-31-100 J, 220 B 2, and 420 through 720, and 40 CFR Part 503 require all STPs to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. Technical requirements are derived from the Virginia Pollution Abatement Permit Regulation (9 VAC 25-32-10 *et seq.*)
Part I.D.6.	**Reliability Class:** *Identical to Part I.D.6. of the previous permit.* Required by SCAT Regulations 9 VAC 25-790. Class II status was assigned to this facility.

Part I.D.7. **Treatment Works Closure Plan:** *Identical to Part I.D.7. of the previous permit.* Required for all STPs per the State Water Control Law at 62.1-44.18.C. and 62.1-44.15:1.1., and the SCAT Regulations at 9 VAC 25-790-450.E. and 9 VAC 25-790-120.E.3.

Part I.D.8. **Reopeners:**

a. *Identical to Part I.D.8.a. of the previous permit.* Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

b. *Identical to Part I.D.8.c. of the previous permit.* 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

c. *Identical to Part I.D.8.d. of the previous permit.* Required by the VPDES Permit Regulation, 9 VAC 25-31-220.C, for all permits issued to STPs.

Part II CONDITIONS APPLICABLE TO ALL VPDES PERMITS. VPDES Permit Regulation 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

Deletions: Part I.D.8.b. (Nutrient Reopener) of the previous permit has been removed at this reissuance. Since this facility is not designed to discharge 40,000 gallons or more per day, nutrient requirements do not apply.

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the continued release of treated wastewater into a water body in Albemarle County, Virginia.

First Public Notice Issue Date: (**to be supplied by newspaper**)

PUBLIC COMMENT PERIOD: 30 days following first public notice issue date
PERMIT NAME AND NUMBER: Virginia Pollutant Discharge Elimination System Permit – Wastewater (VA0076244) issued by DEQ, under the authority of the State Water Control Board
NAME AND ADDRESS OF APPLICANT: Albemarle County Public Schools, 2751 Hydraulic Road, Charlottesville, VA 22901
NAME AND ADDRESS OF FACILITY: Stone-Robinson Elementary School STP, 958 North Milton Road, Charlottesville
This facility is an Exemplary Environmental Enterprise participant in Virginia's Environmental Excellence Program.
PROJECT DESCRIPTION: The applicant proposes to release treated sewage wastewater at a rate of 0.007 million gallons per day into the Rivanna River in Albemarle County in the Middle Rivanna River/Buck Island Creek watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: organic matter, solids, chlorine, and pH. Sludge from the treatment process will be pumped and hauled to the Moores Creek Regional STP for further treatment and disposal.

HOW TO COMMENT: DEQ accepts comments by e-mail, fax or postal mail. All comments must be in writing and be received by DEQ during the comment period. Written comments must include: 1) The names, mailing addresses and telephone numbers of the person commenting and of all people represented by the citizen. 2) If a public hearing is requested, the reason for holding a hearing, including associated concerns. 3) A brief, informal statement regarding the extent of the interest of the person commenting, including how the operation of the facility or activity affects the citizen. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the proposed permit. The public may review the draft permit and application at the DEQ office named below.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:
Name: Keith Showman
Address: Valley Regional Office, 4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia, 22801
Phone: (540) 574-7836 E-mail: keith.showman@deq.virginia.gov Fax: (540) 574-7878
The public may review the draft permit and application at the DEQ office named above or may request copies of the documents from the contact person listed above.

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Stone Robinson Elementary School STP

NPDES Permit Number: VA0076244

Permit Writer Name: Keith A. Showman

Date: July 5, 2012

Major [ ] **Minor** [✓] **Industrial** [ ] **Municipal** [✓]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	✓		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	✓		
3. Copy of Public Notice?	✓		
4. Complete Fact Sheet?	✓		
5. A Priority Pollutant Screening to determine parameters of concern?	✓		
6. A Reasonable Potential analysis showing calculated WQBELs?	✓		
7. Dissolved Oxygen calculations?	✓		
8. Whole Effluent Toxicity Test summary and analysis?			✓
9. Permit Rating Sheet for new or modified industrial facilities?			✓

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		✓	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	✓		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	✓		

I.B. Permit/Facility Characteristics – cont.	**Yes**	**No**	**N/A**
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		✓	
5. Has there been any change in streamflow characteristics since the last permit was developed?	✓		
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		✓	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	✓		
8. Does the facility discharge to a 303(d) listed water?	✓		
a. Has a TMDL been developed and approved by EPA for the impaired water?	✓		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?	✓		
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	✓		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	✓		
10. Does the permit authorize discharges of storm water?		✓	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		✓	
12. Are there any production-based, technology-based effluent limits in the permit?		✓	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		✓	
14. Are any WQBELs based on an interpretation of narrative criteria?		✓	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		✓	
16. Does the permit contain a compliance schedule for any limit or condition?		✓	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		✓	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			✓
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		✓	
20. Have previous permit, application, and fact sheet been examined?	✓		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	**Yes**	**No**	**N/A**
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	✓		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	✓		

II.B. Effluent Limits – General Elements	**Yes**	**No**	**N/A**
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	✓		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	✓		

II.C. Technology-Based Effluent Limits (POTWs)	**Yes**	**No**	**N/A**
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	✓		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	✓		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			✓
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	✓		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	✓		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		✓	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			✓

II.D. Water Quality-Based Effluent Limits	**Yes**	**No**	**N/A**
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	✓		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			✓

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the fact sheet provide effluent characteristics for each outfall?	✓		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	✓		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	✓		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	✓		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	✓		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	✓		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	✓		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	✓		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	✓		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	✓		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	✓		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	✓		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	✓		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		✓	
4. Does the permit require testing for Whole Effluent Toxicity?			✓

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	✓		
2. Does the permit include appropriate storm water program requirements?			✓

II.F. Special Conditions – cont.	**Yes**	**No**	**N/A**
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			✓
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			✓
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		✓	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		✓	
a. Does the permit require implementation of the "Nine Minimum Controls"?			✓
b. Does the permit require development and implementation of a "Long Term Control Plan"?			✓
c. Does the permit require monitoring and reporting for CSO events?			✓
7. Does the permit include appropriate Pretreatment Program requirements?	✓		

II.G. Standard Conditions	**Yes**	**No**	**N/A**
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	✓		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset
Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	✓		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name Keith A. Showman

Title Water Permit Writer